



THE
ONTARIO WATER RESOURCES
COMMISSION
WATER QUALITY SURVEY
OF THE
MUSKOKA LAKES

1964

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REPORT

on a

WATER QUALITY SURVEY

of the

MUSKOKA LAKES

by

THE ONTARIO WATER RESOURCES COMMISSION

July 1964

ONTARIO WATER RESOURCES COMMISSION

INTRODUCTION

A water quality survey of the Muskoka Lakes was effected during the month of July 1964. Samples for bacteriological examination were obtained from Lakes Muskoka, Joseph and Rosseau, Lake of Bays, and Fairy, Mary and Peninsula Lakes on July 14, 20, and 22, 1964, respectively.

Similar surveys were conducted in 1961, 1962 and 1963.

Municipal and private sewage treatment plants were inspected in most instances to determine if the effluents were of acceptable quality for discharge to surface waters. Individual reports on these installations were prepared and directed to the authorities concerned.

The lake sampling programme, inspections and report preparation were made by Mr.D.A.Murray Wilson, Engineer's Assistant.

SAMPLING PROCEDURE

The samples were taken in the vicinity of the larger tourist and settled areas on the lakes and in the vicinity of known sources of pollution and treated waste discharges. The majority of the samples were collected within 100 feet of the shoreline, and approximately one foot below the surface. Some surface samples were collected. Six-ounce samples were obtained for bacteriological examination. The tests were performed at the Ontario Water Resources

Commission Laboratory. The laboratory results of the samples collected from the various sources are tabulated in Tables 1 to 7, with the corresponding 1963 results.

SUMMARY OF BACTERIOLOGICAL EXAMINATION RESULTS OF LAKE SAMPLES

The membrane filter technique was employed to obtain a direct enumeration of coliform organisms and the number is reported per 100 millilitres. Surface waters having a total coliform count greater than 2400 per 100 millilitres as determined by this technique do not meet the recognized objectives for surface water quality set forth by the Commission for all waters in the Province of Ontario.

Two samples secured from Fairy Lake in the vicinity of Huntsville and at the mouth of the Muskoka River downstream from Huntsville revealed coliform counts of 11,700 and 2,600 per 100 millilitres, respectively. One sample obtained from Lake Muskoka at Port Carling exceeded the Commission maximum objective for coliform organisms.

The bacterial results of samples collected from Lakes Joseph and Rosseau; Lake of Bays; and Mary and Peninsula Lakes were satisfactory.

DISCUSSION

Bacterial contamination of the Muskoka River and Fairy Lake, downstream and in the vicinity of Huntsville respectively, may be attributed to local sources of pollution which have not been

directed to the municipal sewage works. Generally, it may be said that the effluent from the Huntsville sewage treatment plant was of acceptable quality.

The adverse result of the bacteriological examination performed on the sample collected from Lake Muskoka at Port Carling indicates that a water impairment problem exists in this area. Reportedly, there are faulty sewage disposal systems discharging sanitary wastes to the Indian River, a tributary of these lakes. Every effort should be made to protect the waters in this area from impairment by the enactment of a water pollution control programme.

SUMMARY & CONCLUSIONS

During the month of July 1964, the Muskoka Lakes were sampled. One hundred and two samples were obtained for bacteriological examinations. The laboratory results revealed that only three samples exceeded the Ontario Water Resources Commission's objective of 2,400 coliform organisms per 100 millilitres. Ninety-nine samples had coliform counts of less than 2,400 organisms per 100 millilitres indicating that the quality of the water from these lakes was for the most part satisfactory for recreational activities. It should be noted however, that the water from these lakes or any other surface supply should receive the minimum treatment of chlorination if it is to be used for human consumption.

Interpretation of the coliform test is sometimes confused by the fact that the coliform group of organisms is found in the waste products of other warm-blooded animals as well as man, and also in soil, grain, and certain plant life.

A continuing assessment is being made of the quality of known waste discharges and new sources located or brought to the attention of this Commission. Where water quality objectives are not being maintained the Commission is requiring remedial action to be effected.

The satisfactory quality of the waters in the Muskoka Lakes can be secured and maintained for the following purposes: source of domestic water supply, navigation, fish and wildlife, bathing, recreation, agriculture and other riparian activities. This objective will only be achieved if there is public acceptance of pollution abatement programmes and continued and active support by all concerned.

Generally, the bacteriological quality of the water of Muskoka Lakes could be considered satisfactory. However, there were three instances of localized pollution where the bacterial examination of samples collected indicated coliform organisms were present in excess of the Commission's maximum objective of not greater than 2,400 coliform organisms per 100 ml.

The water impairment problems in these areas will be investigated by the OWRC and recommendations made regarding the corrective action necessary. Future water quality surveys of the Muskoka Lakes will be conducted when deemed necessary by this Commission.

All of which is respectfully submitted,

District Engineer:


H. Browne

Approved by:


K.H. Sharpe, Director 

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TABLE I
LAKE MUSKOKA

Sampling Point No.	Location	M.F. Coliform Count/100 ml	
		1963	1964
MU-1	Gravenhurst Wharf area	7,000	48
1A	Vicinity of Creek Outlet from Gravenhurst S.T.P.	8,000	36
2	Gravenhurst area	90	16
3	Ontario Hospital School- Gravenhurst(off water works)	7	14
3A	Ontario Hospital School- Gravenhurst(off S.T.P.)	6	20
4	Lighthouse Narrows area	4	34
5	Muskoka Beach area (Muskoka Sands Beach area)	39	4
6	Ennis Bay (Beach Area)	0	16
7	Stephens Bay (Beach Area)	0	24
8	Off St.Elmo	25	18
9	North Muskoka River Mouth	2,000	38
10	Sandy Bay (North of Bangor Lodge)	8	1,300
11	Boyd Bay area(Lake-Land Lodge & Tamarac Lodge vicinity)	5	26
12	Off Tonder Island (West Side Beaumaris Lodge Vicinity Swimming area)	3	14
12A	Off Tonder Island (West Side Beaumaris Lodge Vicinity Dock Area)	27	20

TABLE I (cont'd)
LAKE MUSKOKA

Sampling Point No.	Location	M.F. Coliform Count/100 ml	
		1963	1964
MU-12A*	Off Tonder Island (West Side Beaumaris Lodge Vicinity Dock area)	12	-
13	Milford Bay (Beach area)	3	1,700
13A	North-east section Milford Bay	59	18
14	Port Keewaydin (Scarcliff dock)	2	32
15	Narrows- south end of Mirror Lake	7	26
16	Narrows- north end of Mirror Lake	0	100
17	Port Carling at junction of locks and river	7,000	4,100
18	Mortimers Point area	4	18
19	North Bay area	1	22
20	Dudley area(White Rock Cott. Vicinity)	47	46
21	Bala Park area (Jeannette Narrows Vicinity)	30	18
22	Bala area(Torrance Vicinity)	94	1,400
23	Bala @ Templeton's Marina	19	64
23*	Bala @ Templeton's Marina	24	10
23A	Bala Falls area	143	100
24	Barlochan area @ Schell Marina	22	38

*Note: Asterisk indicates surface sample.

TABLE I (cont'd)
LAKE MUSKOKA

Sampling Point No.	Location	M.F. Coliform Count/100 ml	
		1963	1964
MU-25	Walkers Point area	--	12
25A	The Ark	8	28
26	Campbell's Landing	11	26

TABLE II
LAKE JOSEPH

Sampling Point No.	Location	M.F. Coliform Count/100 ml	
		1963	1964
JO-1	Cox Bay area	7	18
2	Elgin House swimming area	3	20
3	Glen Home swimming area	11	40
4	Joseph River mouth	5	46
5	Craigie Lea area	-	8
6	Stanley Bay @ Stanley House dock	5	14
7	Barnesdale area (New C.N.I.B. vicinity)	4	12
8	Footes Bay area- South dock	75	62
9	Footes Bay area- North dock	27	48

TABLE III
LAKE ROSSEAU

Sampling Point No.	Location	M.F. Coliform Count/100 ml	
		1963	1964
RO-1	Port Carling Locks	54	90
2	Brackenrig Bay entrance	5	8
3	Windermere area off Fife House	4	4
4	Black Point (Wigwassan Lodge dock area)	62	28
5	Rostrevor Beach Resort	0	16
6	Juddhaven area	5	16
7	Rosseau dock area	93	800
8	Morimer's Lodge area	11	34
9	Minett area (Paignton House)	6	56
10	Minett area (Clevelands House south of dock)	66	16
11	Woodington area	12	8
12	Muskoka Lakes Association area	6	158
13	Ferndale House area (Canadian Keswick Vicinity)	70	32

TABLE IV
LAKE OF BAYS

Sampling Point No.	Location	M.F. Coliform Count/100 ml	
		1963	1964
LB-1	Baysville Dam area	16	34
2	Idylwyld Lodge area	5	18
3	The Narrows	8	6
4	Nith Road area	7	12
5	Black Point	Not sampled	4
6	Glenmount Hotel	6	6
7	Norway Point	4	2
8	Bigwin Island area	51	6
9	Bigwin Island area	13	64
10		9	0
11	The Narrows	5	0
12	The Narrows @ Old Bridge	32	18
13	Trading Bay	17	6
14	East side Ten Mile Bay	29	4
15	East side Ten Mile Bay @ Sea Breeze	2	0
15A	Ronville Point area	20,000	8
16	Fox Point	8	6
17	Haystack Bay @ Camp Site Docks	83	53
18	Haystack Bay @ Lumina Resort	11	14

TABLE IV (cont'd)
LAKE OF BAYS

Sampling Point No.	Location	M.F. Coliform Count/100 ml	
		1963	1964
LB-19	North-east corner Bigwin Island	1	5
20	Port Cunningham	14	14
21	North side Bigwin Island	3	0
22		3	146
23	Ideal Point	7	1
24	Birtchcroft Lodge	7	8
25	Dwight Area @ dock	11	0
25A	Mouth of Oxtongue River	17	12
26	Dwight area	11	44
27	Rat Bay	9	1
28	South Portage @ dock	8	4
29	Brittania Hotel	7	2
30	Clovelly Point	1	8

TABLE V
FAIRY LAKE

Sampling Point No.	Location	M.F. Coliform Count/100 ml	
		1963	1964
FA-1	Fairy Lake at Hwy.11A Bridge - Huntsville	1,600	11,700
2	Mouth of Muskoka River downstream from Huntsville	5,800	2,600
3	North Shore off Golden Pheasant Lodge	35	1
4	Puck's Lodge Vicinity	30	12
5	N.Muskoka R. under bridge between Fairy & Peninsula Lakes	40	11
6	Locks at Hwy.527	600	40

TABLE VI
PENINSULA LAKE

Sampling Point No.	Location	M.F. Coliform Count/100 ml	
		1963	1964
PE-1	Peninsula Lake east of Canal	2,200	42
2	Tally-Ho Inn Vicinity	15	31
3	Portage Lodge Vicinity	15	6
4	Springside Beach area	13	173
5	Springside Beach area	9	1040
5A	Putin Bay	58	25

TABLE VII

MARY LAKE

Sampling Point No.	Location	M.F. Coliform Count/100 ml	
		1963	1964
MA-1	Mary Lake & mouth of N.Muskoka River	6	14
2	Gryffin Lodge vicinity	7	31
2A	Mouth of Lancelot Creek	1,400	0
3	Port Sydney Public Beach	0	6
4	Port Sydney Vicinity	24	3
5	Muskoka Lodge Public Beach	4,900	0



ONTARIO WATER RESOURCES COMMISSION

MUSKOKA RIVER WATERSHED
SHOWING 1964 LAKE SAMPLING POINTS
FIG. 1

SCALE: 1:126,720

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